

Rothia indica subsp. *australis* A. E. Holland (Fabaceae: Crotalariaeae), a new subspecies occurring in Australia

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Summary

Holland, Ailsa. E. (1997). *Rothia indica* subsp. *australis* (Fabaceae: Crotalariaeae), a new subspecies occurring in Australia. *Austrobaileya* 5(1): 93–96. Australian material previously identified as *Rothia indica* (L.) Druce, is here described as a new subspecies *R. indica* subsp. *australis* A.E.Holland, subsp. nov. Illustrations and a key to the subspecies of *Rothia indica* are included.

Key words: Fabaceae:Crotalariaeae, *Rothia indica* subsp. *australis*.

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Introduction

Rothia Pers. is a genus of two species: *R. hirsuta* (Guill. & Perr.) Baker occurs in Africa, and *R. indica* (L.) Druce occurs in Asia and Australia. Roth named the latter species *Dillwynia trifoliata* in 1806 (*Dillwynia* Roth, not to be confused with the Australian genus *Dillwynia* J.E.Smith), probably from material from India. *Rothia* was first collected in Australia in 1855 by F. Mueller from Upper Victoria River. He had placed the name *R. lotoides* on the label of this specimen (K) but this name was never published. This specimen was later identified as *R. trifoliata* (Roth) Pers. (= *R. indica*) by Hooker (1859), in the section on tropical Australian flora, and again by Bentham (1864). Both authors refer to this species as also occurring in India.

Examination of specimens of *Rothia indica* collected in India and S.E. Asia indicated that the Australian material belongs to a taxon distinct from that from India and S.E. Asia.

Rothia indica (L.) Druce, *Bot. Exch. Club Soc. Brit. Isles* 3:423 (1914)

Trigonella indica L., *Sp. Pl.* 778 (1753). **Type:** not designated. Original material: India. Hb. Linn. 932.18 (LINN, microfiche BRI).

Rothia trifoliata (Roth) Pers., *Syn Pl.* 2:638 & 659 (1807); *Dillwynia trifoliata* Roth, *Catal. bot.* 3:71 (1806). **Type:** 'horto medico Amstedamensi', location of specimen unknown.

Prostrate annual, sparsely to densely hairy; hairs long and spreading or short and somewhat appressed, white, golden or reddish. Stems to 40 cm long. Leaves digitately trifoliate; petioles 2–17 mm long, slightly shorter than the leaflets, somewhat flattened; terminal leaflets obovate to oblong, 5–21 mm long, 1.5–6 mm wide, entire, cuneate at base, obtuse or broadly acute at apex, sparsely to densely hairy on both surfaces or nearly glabrous on upper surface; lateral leaflets similar, slightly smaller. Stipules ovate, obovate or elliptic, 2–10 mm long, 1.5–3.5 mm wide, on a stalk less than 1 mm long, acute or obtuse, herbaceous. Inflorescence axil opposed; flowers solitary or paired or 2–4 in short racemes up to 4 mm long; peduncles 0–2 mm long; pedicels 0.5–4 mm long; bracteoles on pedicel filiform, 1–3 mm long. Calyx 4–6.5 mm long, densely hairy; tube campanulate, 1.5–3 mm long, 10-veined, membranous; lobes lanceolate (upper two somewhat falcate), subequal, 2.5–5 mm long, erect. Standard 4–6.5 mm long, 1.5–2 mm wide, pale yellow inside, orange or reddish outside; lamina oblong-ovate, tapered at base, rounded and slightly incurved at apex, hairy along centre of back; claw 1.5–2.5 mm long. Wings 4–6.5 mm long, 1.5–2.5 mm wide; lamina obovate, obtuse at apex; claw c. 2 mm long.

Keel 4–5.5 mm long, 1.5–2.5 mm wide lamina truncate at apex, curved on lower edge; claw c. 2 mm long. Style 1.5–2 mm long, persistent. Stamens monodelphous; staminal tube c. 4 mm long; anthers uniform. Pods erect or spreading, linear to slightly falcate, somewhat flattened,

2–5.5 cm long, 1.5–2.5 mm wide, acute at apex, moderately to densely hairy; hairs spreading or appressed. Seeds 7–16, cuboid, 1.2–2 mm long, 0.7–1.3 mm wide, pale yellow or brown, shiny.

This species occurs throughout Asia and Australia. Two subspecies are recognised here:

Plants sparsely to moderately hairy with appressed hairs; leaflets 8–21 mm long; petioles 5–17 mm long. Inflorescences either with pairs of flowers or 2–4 in short racemes to 4 mm long; pedicels 1–4 mm long; flowers 5–6.5 mm long; calyx 5–6.5 mm long subsp. **indica**

Plants densely hairy with long ± spreading hairs; leaflets 5–12 mm long; petioles 2–8 mm long. Inflorescence of 1 or 2 flowers not in racemes; pedicels 0.5–3 mm long; flowers 4–5 mm long; calyx 4–6 mm long subsp. **australis**

Rothia indica subsp. **indica**

Illustrations: Wight, *Ic. pl. Ind. orient.*, No. 199 (1840–1853); N.V.Thuan et al., *Fl. Cambodge, Laos, Vietnam* 23: 197, Plate 36 (1–9) (1960); K.M.Matthews, *Fl. Tamilnadu Carnatic*, Plate 219 (1982).

Herb, sparsely or moderately hairy with fine, white, appressed or slightly spreading hairs. Stems to 40 cm long. Petioles 5–17 mm long. Stipules ovate to elliptic to obovate, 3–5 mm long, 1.5–3 mm wide, sparsely to moderately hairy. Leaflets obovate to oblanceolate, 5–21 mm long, 3–6 mm wide. Flowers 2–4, usually on a short peduncle; pedicels 1–4 mm long; bracteoles usually 2–3 mm long. Calyx 5–6.5 mm long, densely hairy with appressed hairs; tube 1.5–2.5 mm long; lobes 2.5–3.5 mm long. Standard 5–6.5 mm long. Wings 4–5.5 mm long. Keel 4–5.5 mm long. Pods densely hairy with long fine appressed hairs.

Specimens examined: **India.** Donkanayi near Mangapadu, Andhra Pradesh, Dec 1967 *Subbarao* 29673 [AD98631173] (AD); Maisor & Carnatic, *without date*, *Thompson* [MEL713522] (MEL); Peninsula Indiae Orientalis, 1866–7, *Wight* 571 [MEL713525] (MEL); Hassan District, Mysore, *Aut* 1971 *Ramamoorthy* (K). **Sri Lanka.** Trincomalee, near China Bay Airport, Feb 1970 *Rudd* 3134 & *Balakrishnan* 3134 (K).

Distribution and habitat: In India and Sri Lanka. Also in S.E. Asia as described by Thuan et al. (1987). Usually occurs in seasonally inundated areas.

Rothia indica subsp. **australis** A.E. Holland, **subsp. nov.**, *Rothiae indicae* (L.) Druce subsp. *indicae*, affinis sed indumento conferto patenti, foliis parvis, et floribus solitariis vel duplicatis, nunquam in racemis differt. **Typus:** Queensland. GREGORY SOUTH DISTRICT: Site 195, Warlus 1, 7 Aug 1971, *D.E. Boyland* 4016 (BRI).

Herb, densely covered in reddish or white, long, spreading hairs. Stems to 30 cm long. Petioles 2–8 mm long. Stipules obovate or elliptic, 2–4 mm long, 1.5–2.6 mm wide. Leaflets obovate to oblong, 5–12 mm long, 1.5–4 mm wide, densely hairy on both surfaces. Flowers 1 or 2; peduncles 0; pedicels 1–4 mm long; bracteoles 1.5–2.5 mm long. Calyx 4–6 mm long, densely patently hairy; tube 1.5–2.5 mm long; lobes 2.5–3.5 mm long. Standard 4–5 mm long. Wings 4–5.5 mm long. Keel 4–5.5 mm long. Pods densely hairy with long fine obliquely spreading hairs. Fig. 1.

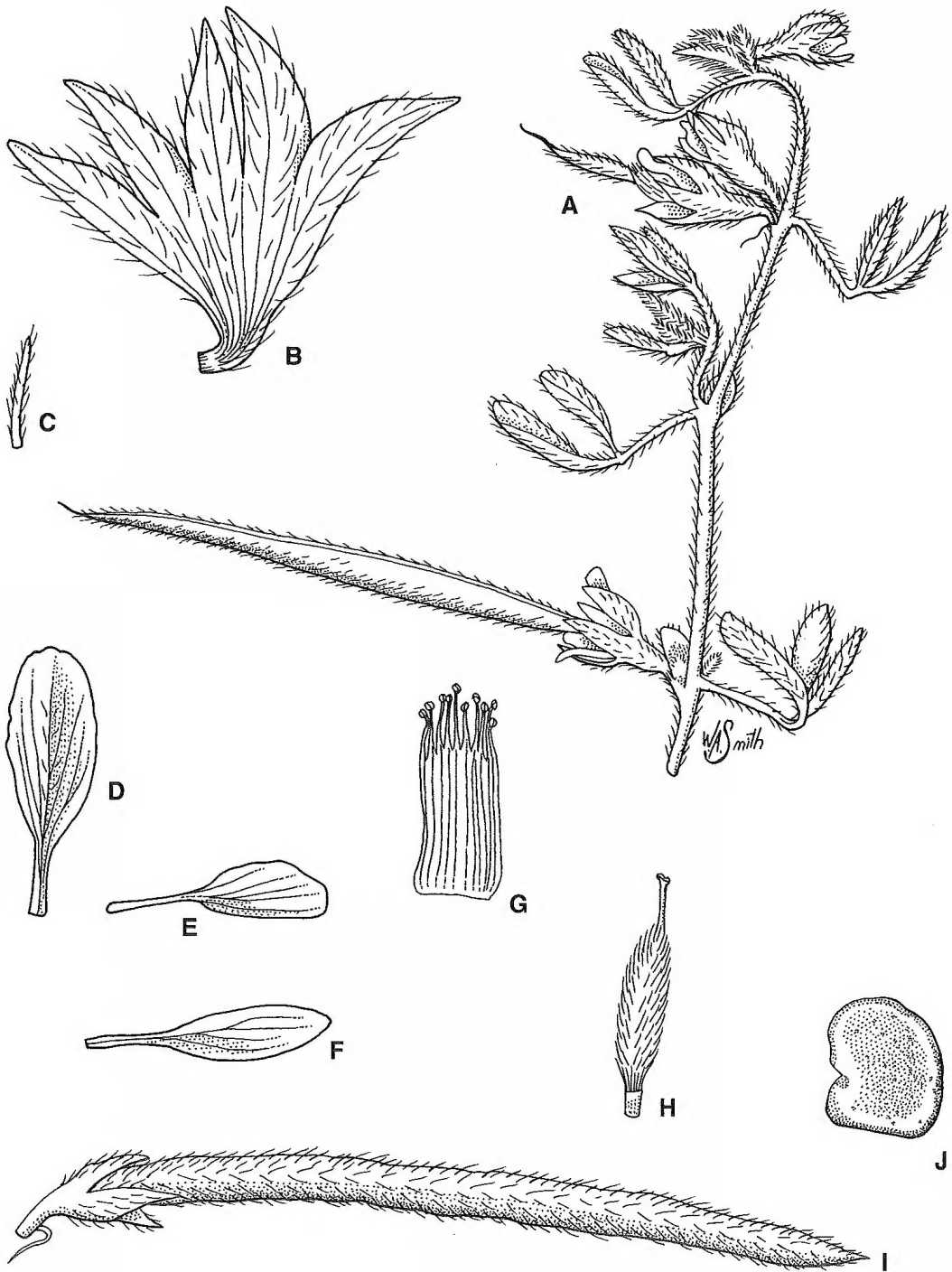


Fig. 1. *Rothia indica* subsp. *australis*: A. branch with immature pod $\times 3.4$. B. calyx $\times 7$. C. bract $\times 7$. D. standard $\times 7$. E. wing $\times 7$. F. keel $\times 7$. G. stamens $\times 7$. H. ovary $\times 7$. I. mature pod $\times 3.4$. J. seed $\times 14$. All from *Boyland* 4016.

Specimens examined: **Australia. Western Australia:** Two Mile Ck, May 1941, *Burbidge* 775 (PERTH); Manguel Ck Station, South of Broome-Derby road, Apr 1968, *Payne* S.N. (PERTH). **Northern Territory:** Walker River, May 1993, *Dunlop* 9529 & *Leach* (BRI, DNA); 70km E of Soudan, Wakaya Desert, May 1993, *Latz* 13138 (BRI, DNA); Jitiya Soakage, 4km SE of Lake Surprise, Tanami Desert, Aug 1991, *Latz* 12131 (DNA); Upper Victoria River, in 1855, *Mueller* (K, 2 sheets). **Queensland:** Cook DISTRICT: Junction Ck, Georgetown-Mt Surprise Rd, Jul 1983, *Hacker* 369 (BRI); Black Rock (Lynd), Apr 1981, *Horsup* 111 (BRI). BURKE DISTRICT: road from Lawn Hill to Doomadgee Mission, Jul 1974, *Ollerenshaw*, 1345 & *Kratzing* (BRI); Adel's Grove, via Camooweal, Jun 1950 *de Lestang* 486 (BRI). 64km NW of Richmond, Mar 1995, *Milson* JM826 (BRI). GREGORY NORTH DISTRICT: Currawilla, about 100 mls [160kms] W of Windorah, Jun 1949, *Everist* 3898, (BRI).

Distribution and habitat: This subspecies occurs right across the drier parts of northern Australia. Only 13 collections have been seen. It is found in sandy soils on sandhills and sandy flats.

Phenology: Flowers from April through to August.

Etymology: This subspecies is here named 'australis', because of its southern distribution.

Affinities: The only other presently recognised species of *Rothia*, *R. hirsuta* (Guill. & Perr.) Baker, can easily be distinguished from *R. indica* by the pods which are falcate, less than 12 mm long and tapered at the apex. *R. indica* has pods which are linear, 20–55 mm long and acute at the apex.

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